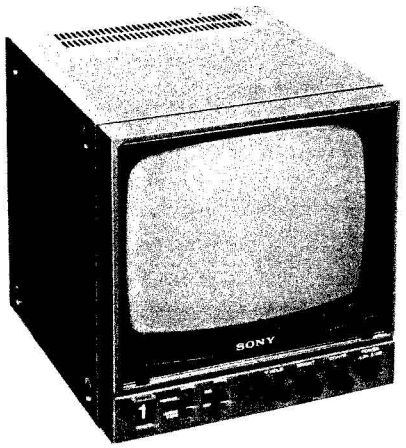
PVM-91CE

SERVICE MANUAL

AEP Model



October, 1982

SPECIFICATIONS

System	CCIR standard
Picture tube	9 inches measured diagonally 90-degree deflection
Resolution	800 lines (horizontal)
Video input	Composite : 0.5 V – 2 V p-p, negative
Sync input	1 V – 8 V p-p, negative
Video/sync input impedance	High impedance for loop-through ; 75 ohms terminated
Power requirements	220 V ac, 50 Hz
Power consumption	38 W (max.), 29 W (average)
Dimensions	Approx. 216 × 228.5 × 246.5mm (w/h/d)
Weight	Approx. 6.1 kg

Design and specifications subject to change without notice.

MICROFILM

VIDEO MONITOR

SONY®

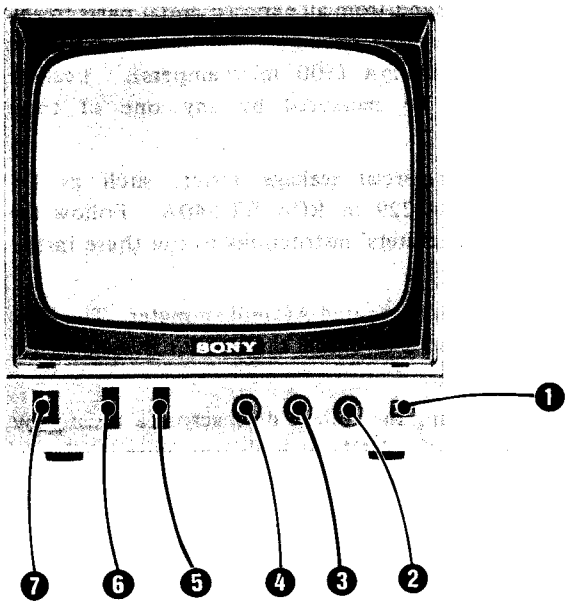
MON

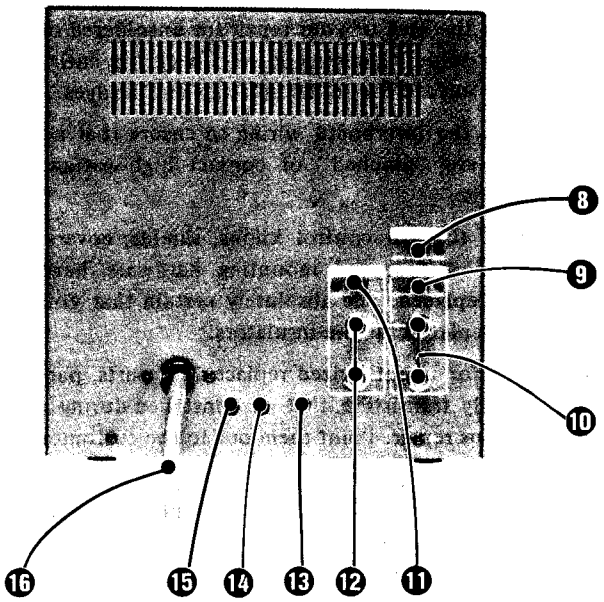
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

1. GENERAL

LOCATION OF CONTROLS AND CONNECTORS





Front panel

❶ POWER switch

❷ CONTRAST control

❸ BRIGHT (brightness) control

❹ V HOLD (vertical hold) control
Adjusts the vertical stability of the picture.

❺ SYNC select switch
INT: when composite video signal is supplied without external sync.
EXT: when an external pulse is supplied from an external sync generator, with either a composite or non-composite video signal.

❻ SCAN select switch
NORMAL: for normal scanning.
UNDER SCAN: for underscanning to display the whole picture containd in the video signal. The display size is reduced by about 10%.

❼ Number label window
When several monitors are used, classify each monitor by inserting one of the supplied labels (1 to 5).

Rear panel

❽ DC CLAMP switch
ON: The video signal is clamped with the pedestal voltage level, so that black level is fixed.
OFF: Black level is not fixed.

❾ SYNC 75-ohm termination switch
ON: When an equipment is not connected to the SYNC OUT connector.
OFF: When an equipment is connected to the SYNC OUT connector.

❿ SYNC IN/OUT connectors (BNC type)

⓫ VIDEO 75-ohm termination switch
ON: When the monitor is used singly or is the last of looped chain.
OFF: When another monitor is connected to the VIDEO OUT connector.

⓬ VIDEO IN/OUT connectors (BNC type)

⓭ FOCUS control
Adjust the picture focus. Use a screwdriver to turn the control.

⓮ V LIN (vertical linearity) control
Adjust the vertical dimension of upper or lower part of the picture.

⓯ V SIZE (vertical size) control
Adjust the vertical dimension of the whole picture.

⓰ AC power cord
Connect to a 220 V ac outlet.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

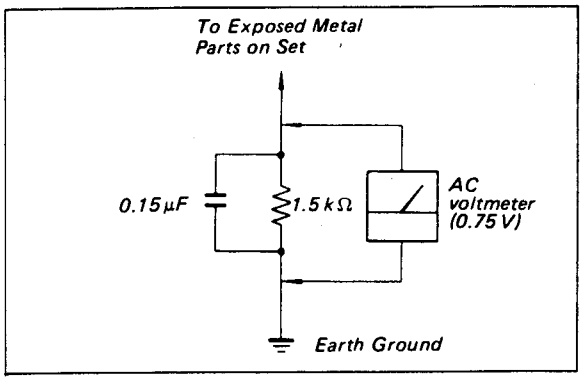


Fig. A. Using an AC voltmeter to check AC leakage.

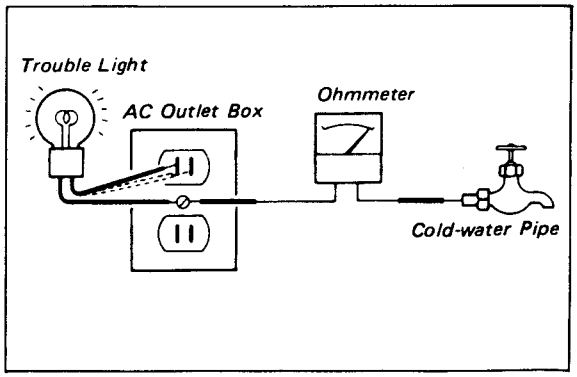
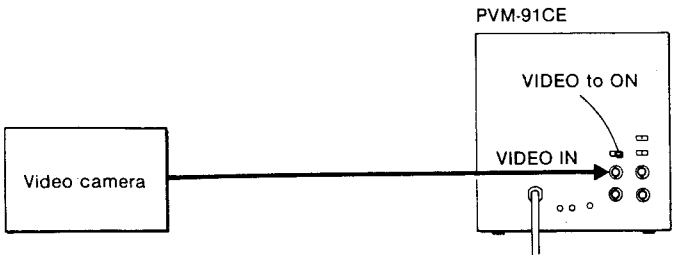


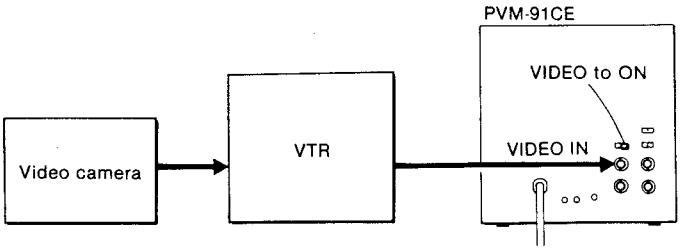
Fig. B. Checking for earth ground.

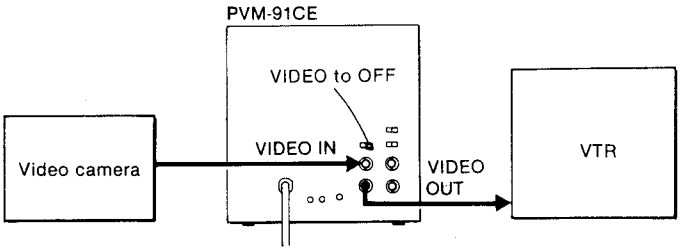
CONNECTION EXAMPLE

As a video camera monitor

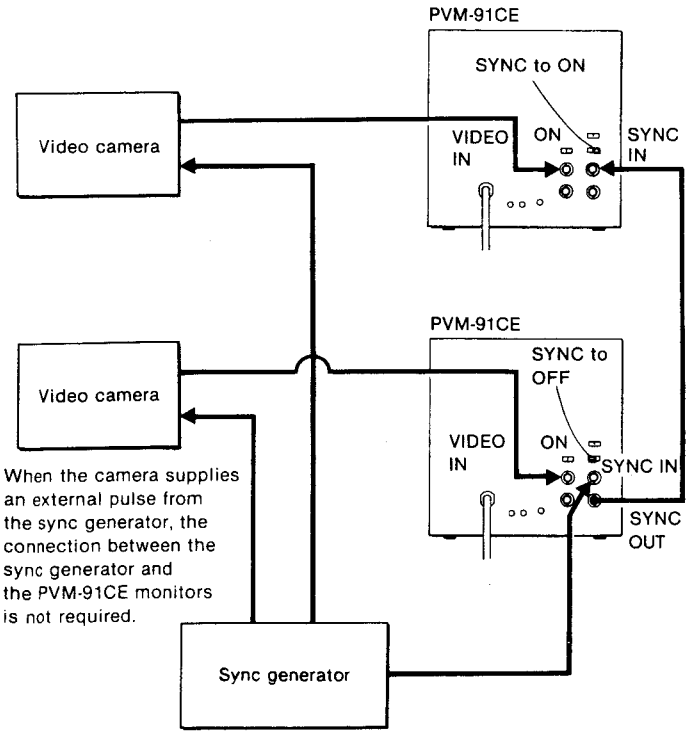


Used with a video camera and a VTR
Either connection is possible.

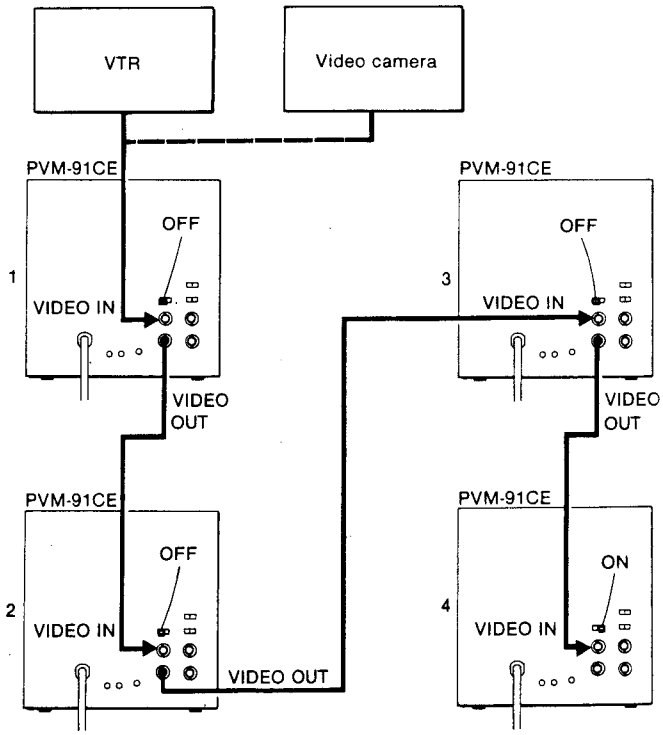




Used with video cameras and a sync generator



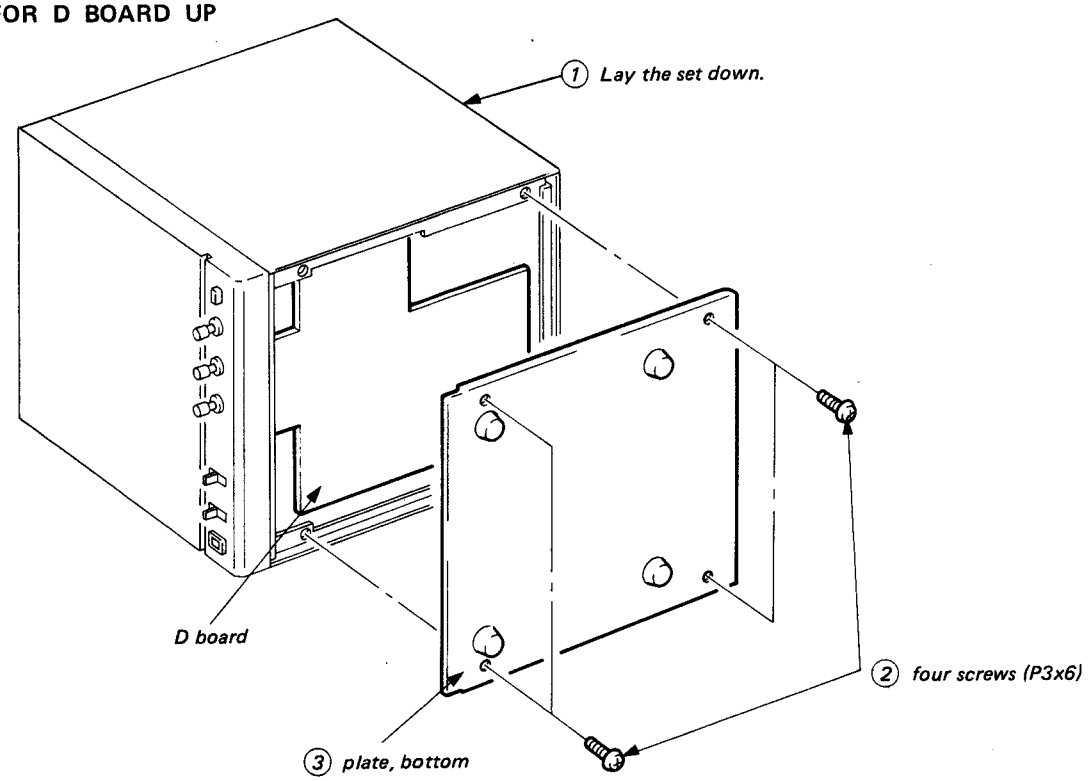
Multiple monitor connection
Up to 10 monitors may be connected.



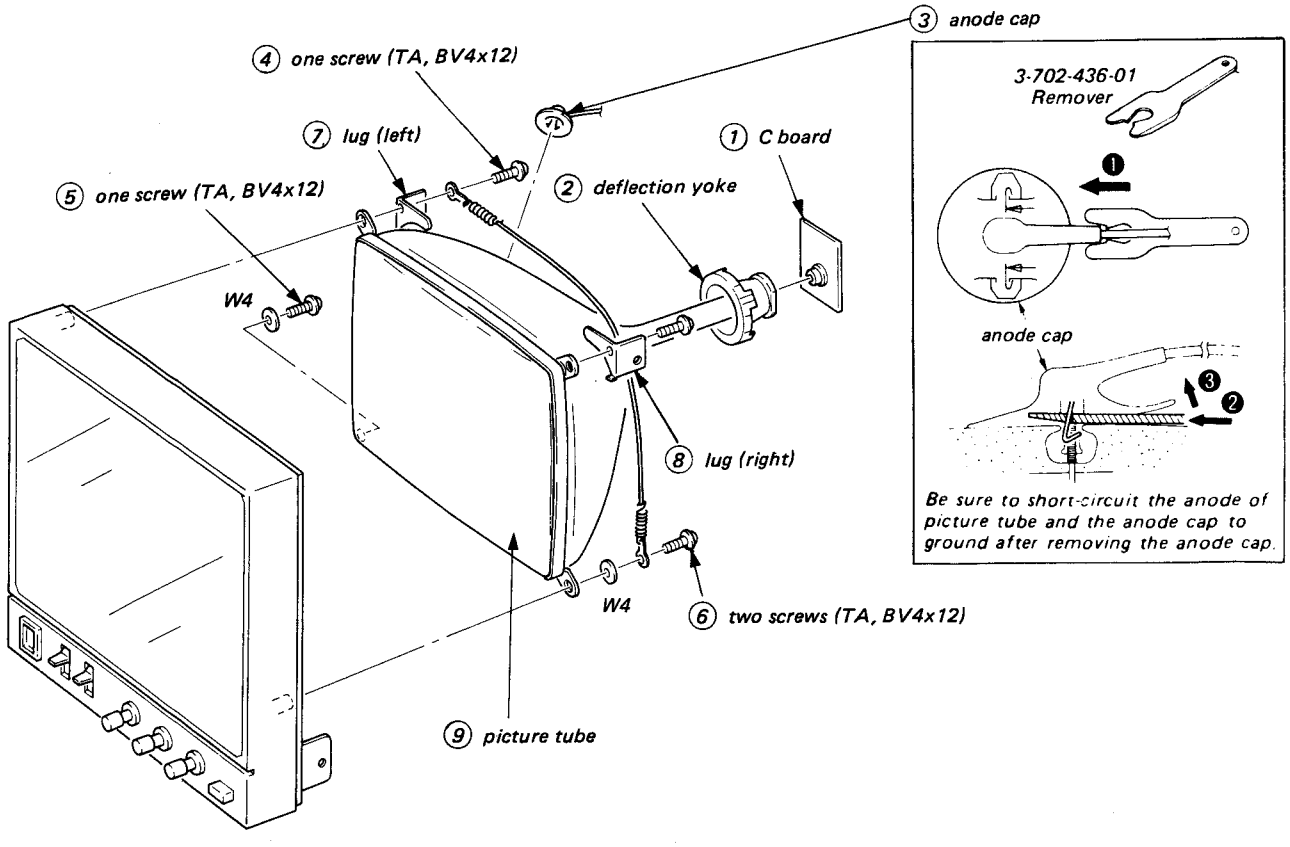
Set the VIDEO switch of the **last monitor** to ON and of the other monitors to OFF.

2. DISASSEMBLY

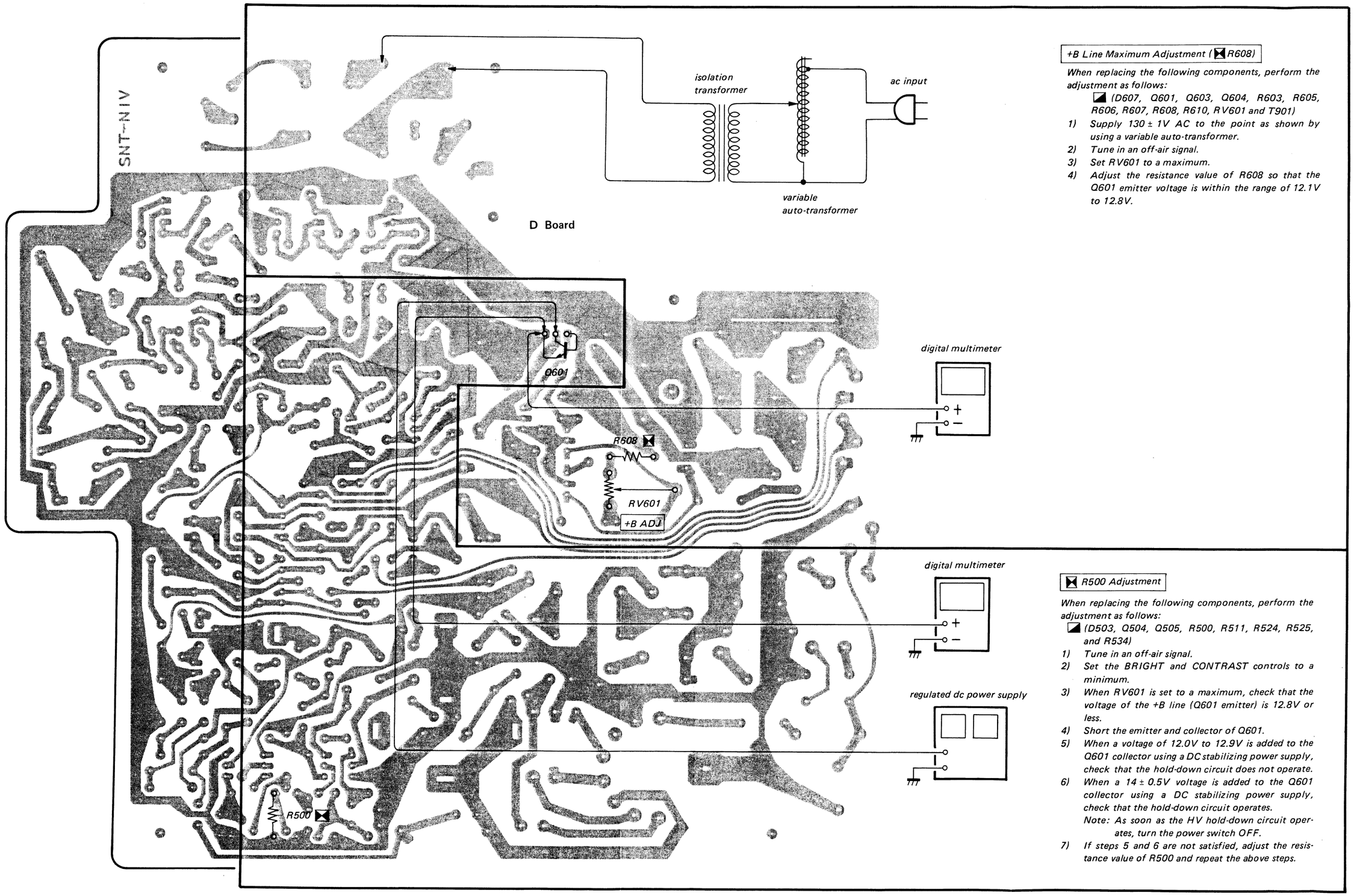
2-1. CHECKING FOR D BOARD UP



2-2. PICTURE TUBE REMOVAL



3. SAFTY RELATED ADJUSTMENTS



+B Line Maximum Adjustment (R608)

When replacing the following components, perform the adjustment as follows:

(D607, Q601, Q603, Q604, R603, R605, R606, R607, R608, R610, RV601 and T901)

1) *Supply 130 ± 1V AC to the point as shown by using a variable auto-transformer.*
2) *Tune in an off-air signal.*
3) *Set RV601 to a maximum.*
4) *Adjust the resistance value of R608 so that the Q601 emitter voltage is within the range of 12.1V to 12.8V.*

R500 Adjustment

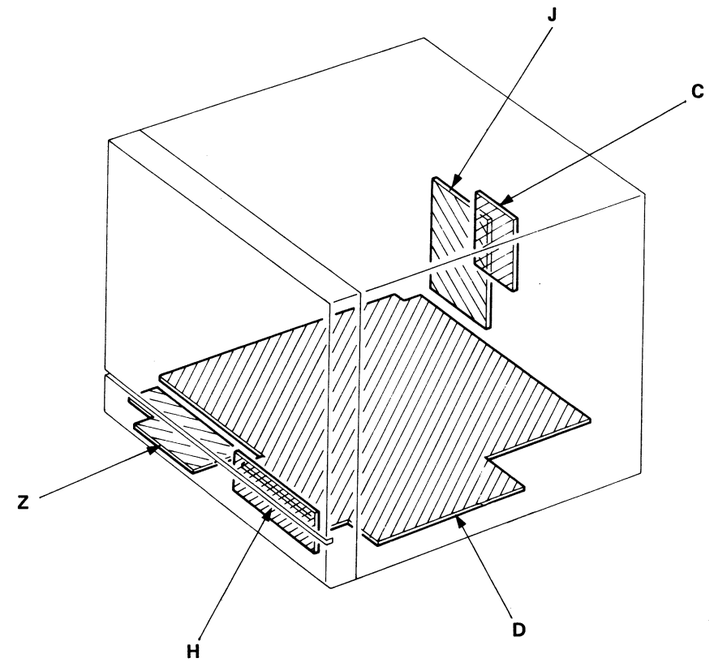
When replacing the following components, perform the adjustment as follows:

(D503, Q504, Q505, R500, R511, R524, R525, and R534)

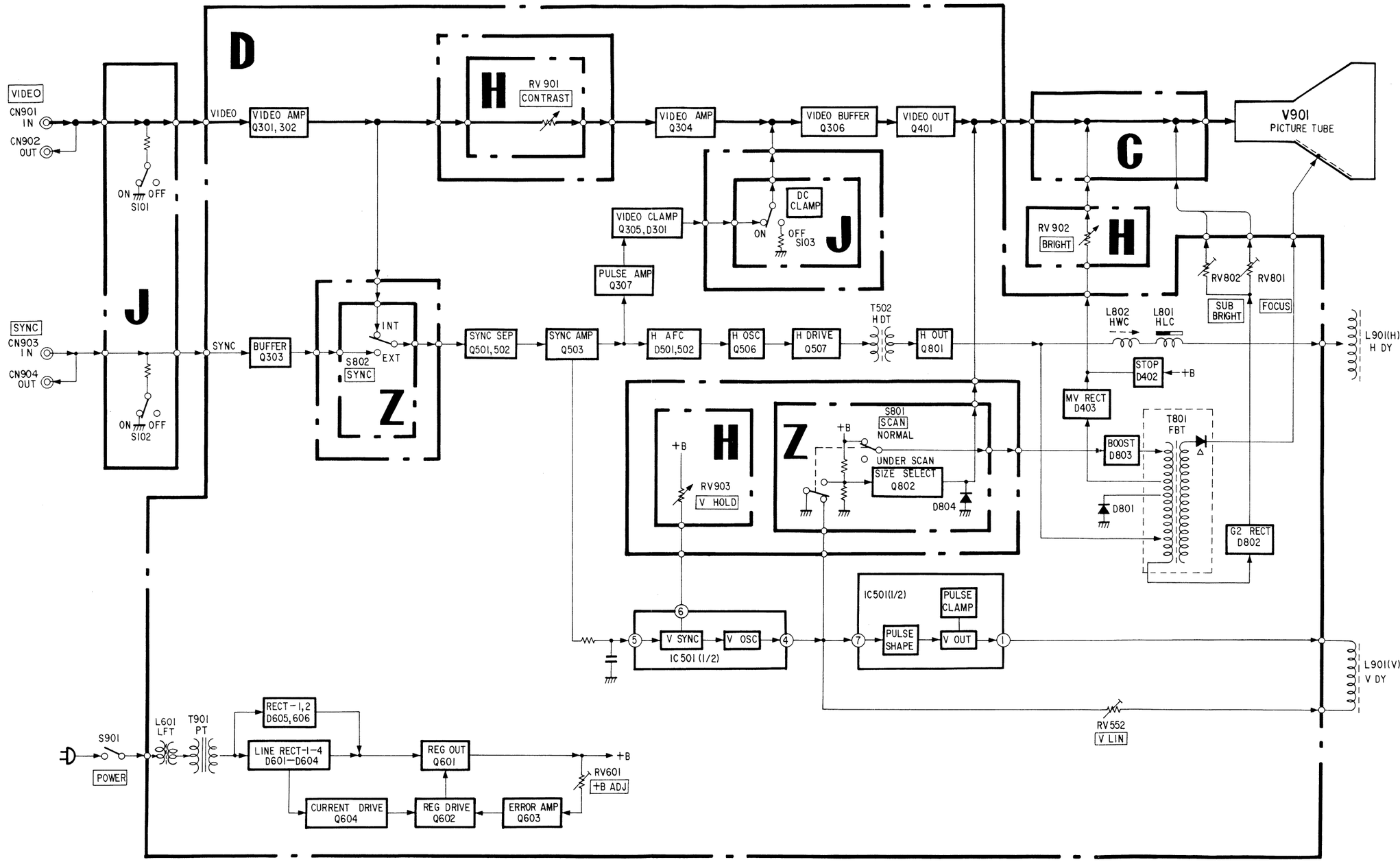
1) *Tune in an off-air signal.*
2) *Set the BRIGHT and CONTRAST controls to a minimum.*
3) *When RV601 is set to a maximum, check that the voltage of the +B line (Q601 emitter) is 12.8V or less.*
4) *Short the emitter and collector of Q601.*
5) *When a voltage of 12.0V to 12.9V is added to the Q601 collector using a DC stabilizing power supply, check that the hold-down circuit does not operate.*
6) *When a 14 ± 0.5V voltage is added to the Q601 collector using a DC stabilizing power supply, check that the hold-down circuit operates.*
   Note: As soon as the HV hold-down circuit operates, turn the power switch OFF.
7) *If steps 5 and 6 are not satisfied, adjust the resistance value of R500 and repeat the above steps.*

4. DIAGRAMS AND CIRCUIT BOARD LOCATION

CIRCUIT BOARDS LOCATION

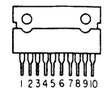


BLOCK DIAGRAM

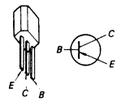


SEMICONDUCTORS

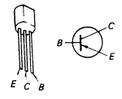
μPC1031H



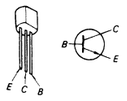
2SA1015
2SA1026



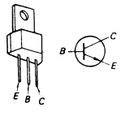
2SA733



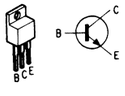
2SC1475
2SC1811
2SC1815
2SC2603
2SC945



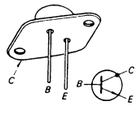
2SC1826



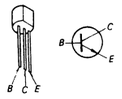
2SC2373



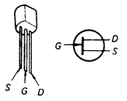
2SC901A



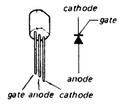
2SD789



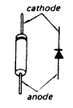
2SK30A



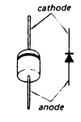
CR02AM-4
CR02AM-8



1S1555
1S1585
1S2076
1S2473
1SS133
1SS148
RD13E-L2
RD5.6E-L3

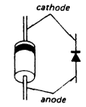


1SS119



GU-3SY
U05E
U05G
V06C
V09C

RH-1C



SCHEMATIC DIAGRAM

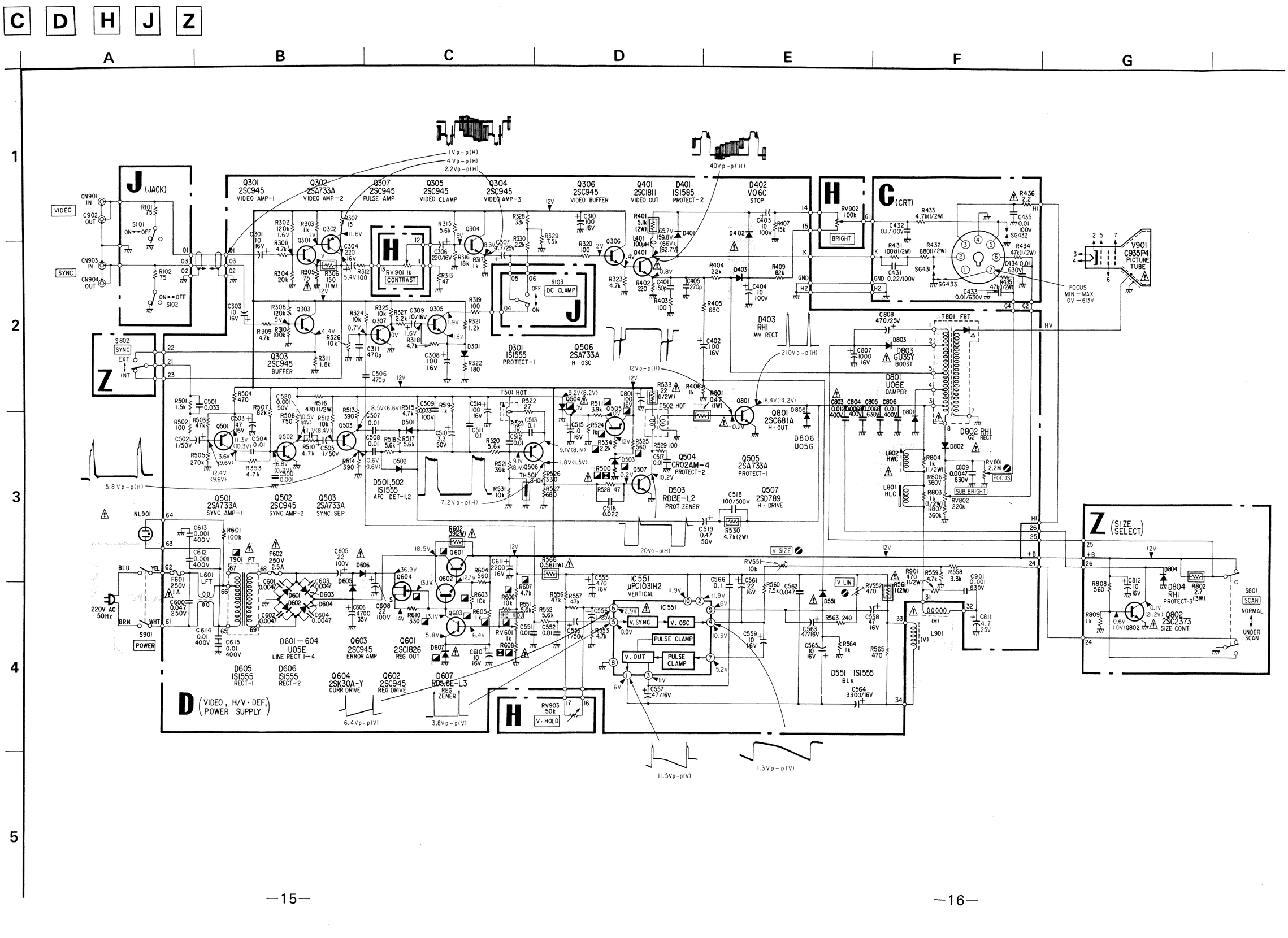
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
-  : nonflamable resistor.
- △ : internal component.
- ▭ : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved.

  When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (◪)	Adjustment (⧓)
D503, D607, Q504, Q505, Q601, Q603, Q604, R500, R511, R524, R525, R534, R603, R605, R606, R607, R608, R610, RV601, T901	R500 R608 adjustment

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- ⊘ : adjustable without removing cabinet.
- ▭ : adjustment for repair.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B + bus.

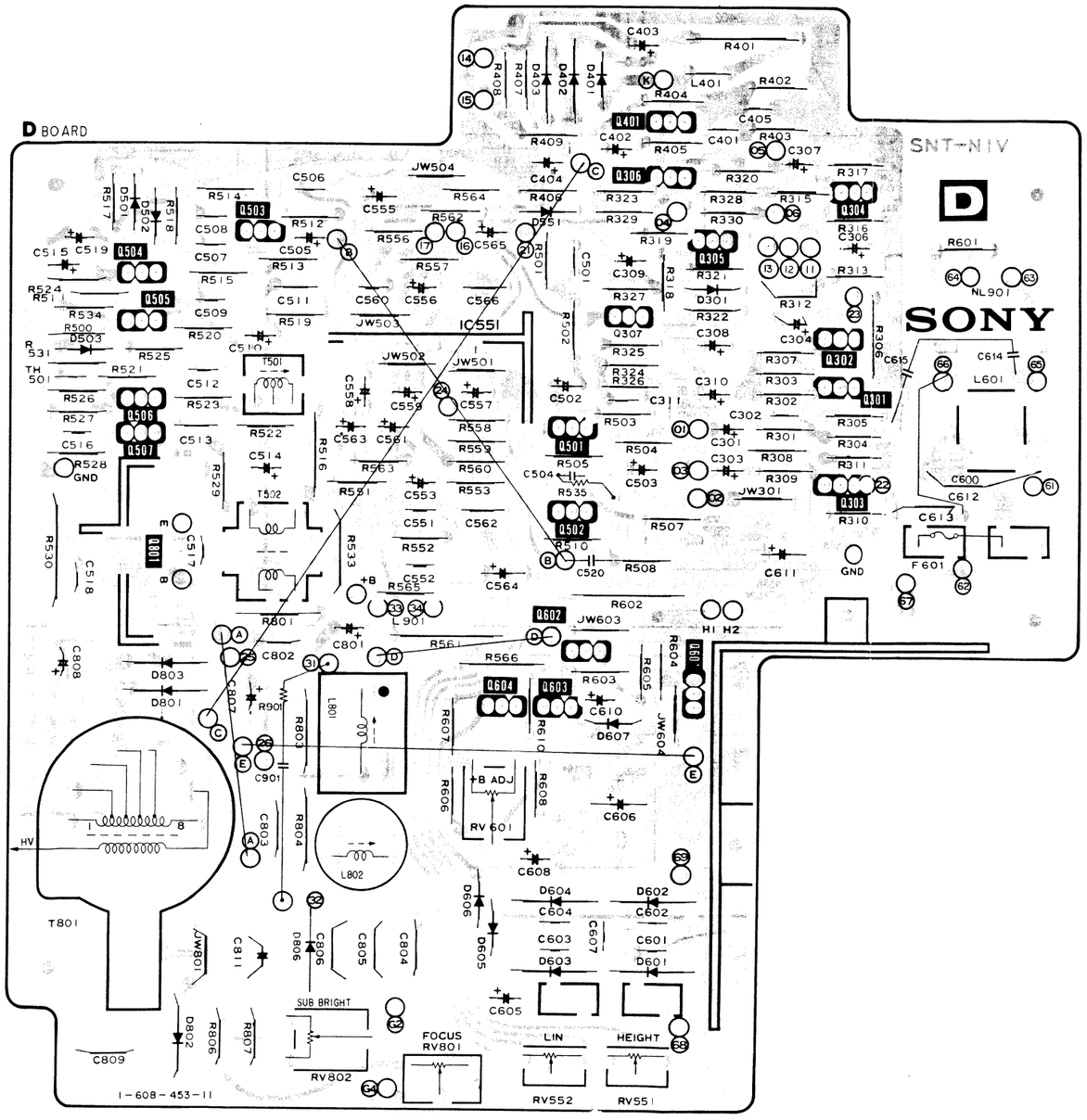

J (JACK)
Z
H
C (CRT)
D
VIDEO
SYNC
CN901 IN
C902 OUT
CN903 IN
CN904 OUT
S101 ON↔OFF
S102 ON↔OFF
S802 SYNC EXT INT
Q301 2SC945 VIDEO AMP-1
Q302 2SA733A VIDEO AMP-2
Q307 2SC945 PULSE AMP
Q305 2SC945 VIDEO CLAMP
Q304 2SC945 VIDEO AMP-3
Q306 2SC945 VIDEO BUFFER
Q401 2SC1811 VIDEO OUT
D401 IS1585 PROTECT-2
D402 V06C STOP
RV902 100k BRIGHT
RV901 1k CONTRAST
S103 DC CLAMP
Q303 2SC945 BUFFER
D301 IS1555 PROTECT-1
Q506 2SA733A H OSC
D403 RHI MV RECT
T801 FBT
D803 GU3SY BOOST
D801 U06E DAMPER
Q801 2SC681A H-OUT
D806 U05G
D802 RHI G2 RECT
T502 HDT
T501 HOT
Q504 CRO2AM-4 PROTECT-2
Q505 2SA733A PROTECT-1
D503 RD13E-L2 PROT ZENER
Q507 2SD789 H-DRIVE
D501,502 IS1555 AFC DET-1,2
Q501 2SA733A SYNC AMP-1
Q502 2SC945 SYNC AMP-2
Q503 2SA733A SYNC SEP
NL901
S901 POWER
220V AC 50Hz
BLU YEL BRN WHT
T901 PT
L601 LFT
D601-604 U05E LINE RECT 1-4
D605 IS1555 RECT-1
D606 IS1555 RECT-2
Q603 2SC945 ERROR AMP
Q601 2SC1826 REG OUT
Q604 2SK30A-Y CURR DRIVE
Q602 2SC945 REG DRIVE
D607 RD5.6E-L3 REG ZENER
RV903 50k V-HOLD
IC551 μPC1031H2 VERTICAL
V.SYNC
V.OSC
V.OUT
PULSE CLAMP
H-ADJ
V-SIZE
V-LIN
D551 IS1555 BLK
L901 (H) (V)
V901 C935P4 PICTURE TUBE
FOCUS MIN-MAX 0V-6I3V
SUB BRIGHT
RV802 220k
SIZE CONT
SCAN NORMAL UNDER SCAN
1Vp-p(H)
4Vp-p(H)
2.2Vp-p(H)
40Vp-p(H)
5.8Vp-p(H)
7.2Vp-p(H)
12Vp-p(H)
210Vp-p(H)
20Vp-p(H)
6.4Vp-p(V)
3.8Vp-p(V)
11.5Vp-p(V)
1.3Vp-p(V)

PRINTED WIRING BOARD **D** **C** **H**

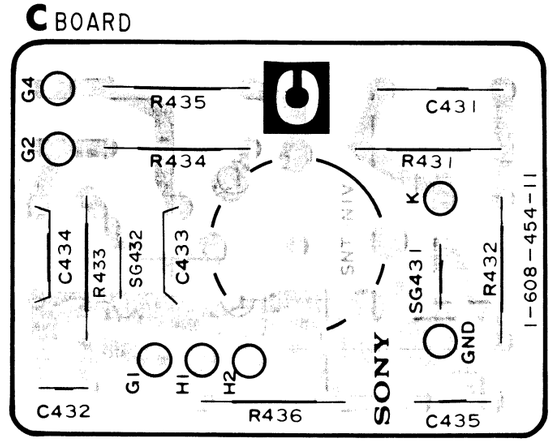
	A	B	C	D	E	F	G
1							
2							
3							
4							
5							

Q, IC	505 504 507 506 801	503	IC551	604	502 501 603 602	307 401 306 305 601	302 304 303 301	Q, IC
D	503	501,502 801 803 802	806	606,605	403 551 402 401 603 604 607 601 602	301		D
ADJ		RV802	RV801 RV601		RV552	RV551		ADJ

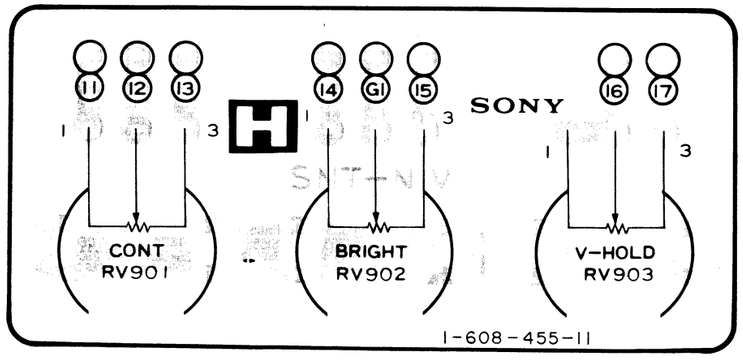
D BOARD

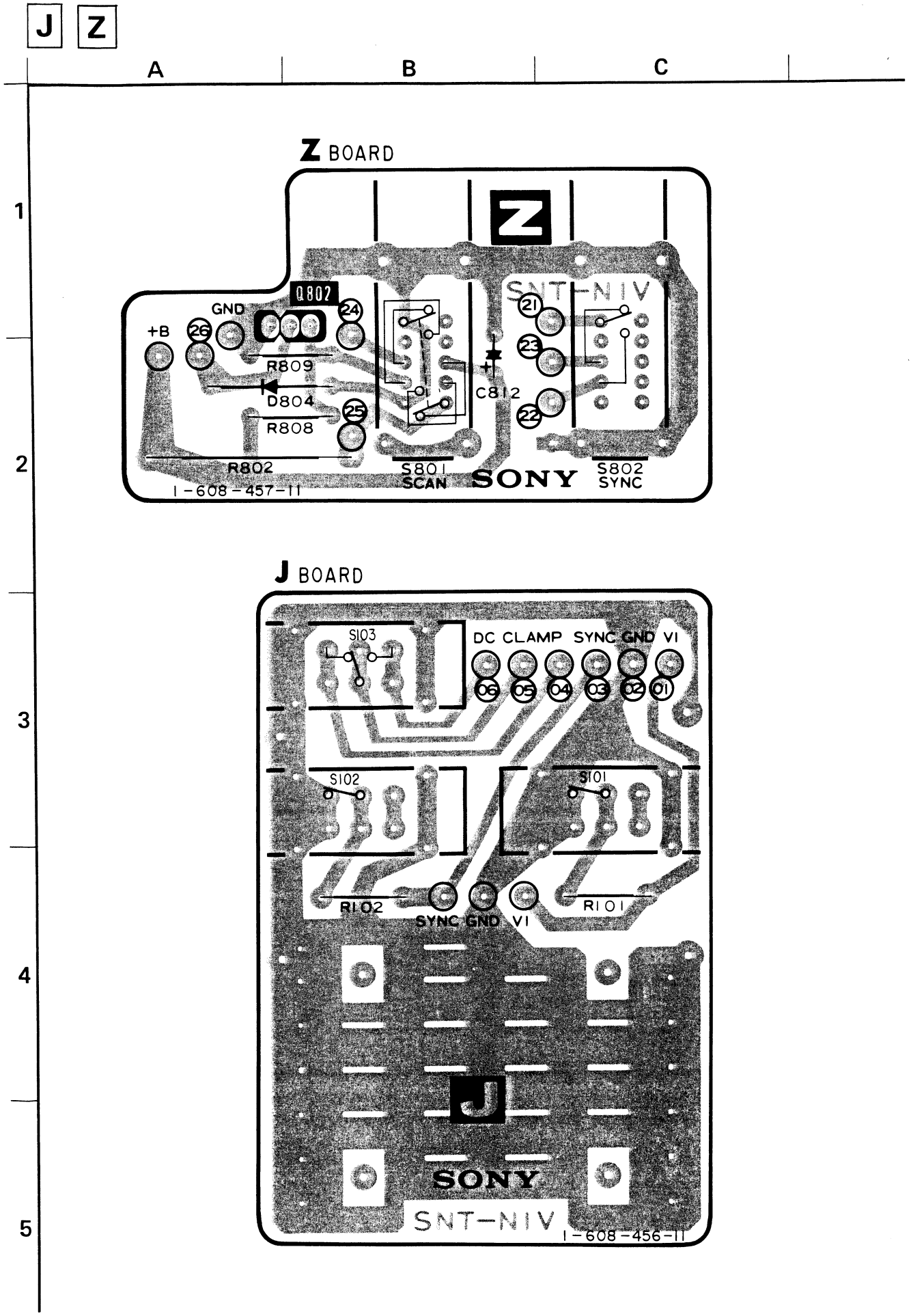


C BOARD



H BOARD



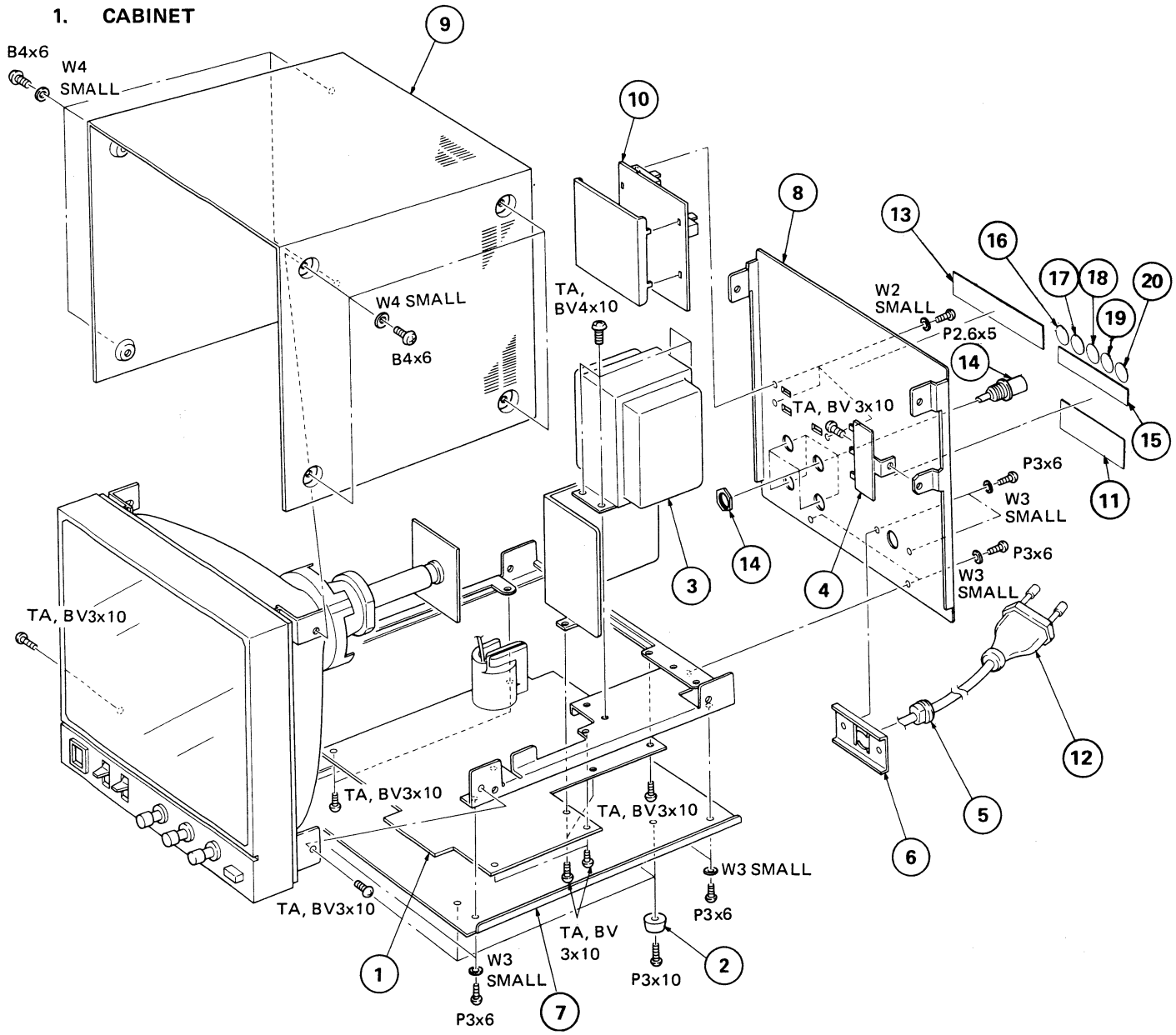

J
Z
A
B
C
1
2
3
4
5
Z BOARD
Q802
GND
+B
26
24
R809
D804
R808
25
R802
S801
SCAN
SONY
S802
SYNC
SNT-NIV
21
23
22
C812
1-608-457-11
J BOARD
S103
DC CLAMP SYNC GND VI
06 05 04 03 02 01
S102
S101
R102
SYNC GND VI
R101
SONY
SNT-NIV
1-608-456-11

5. EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

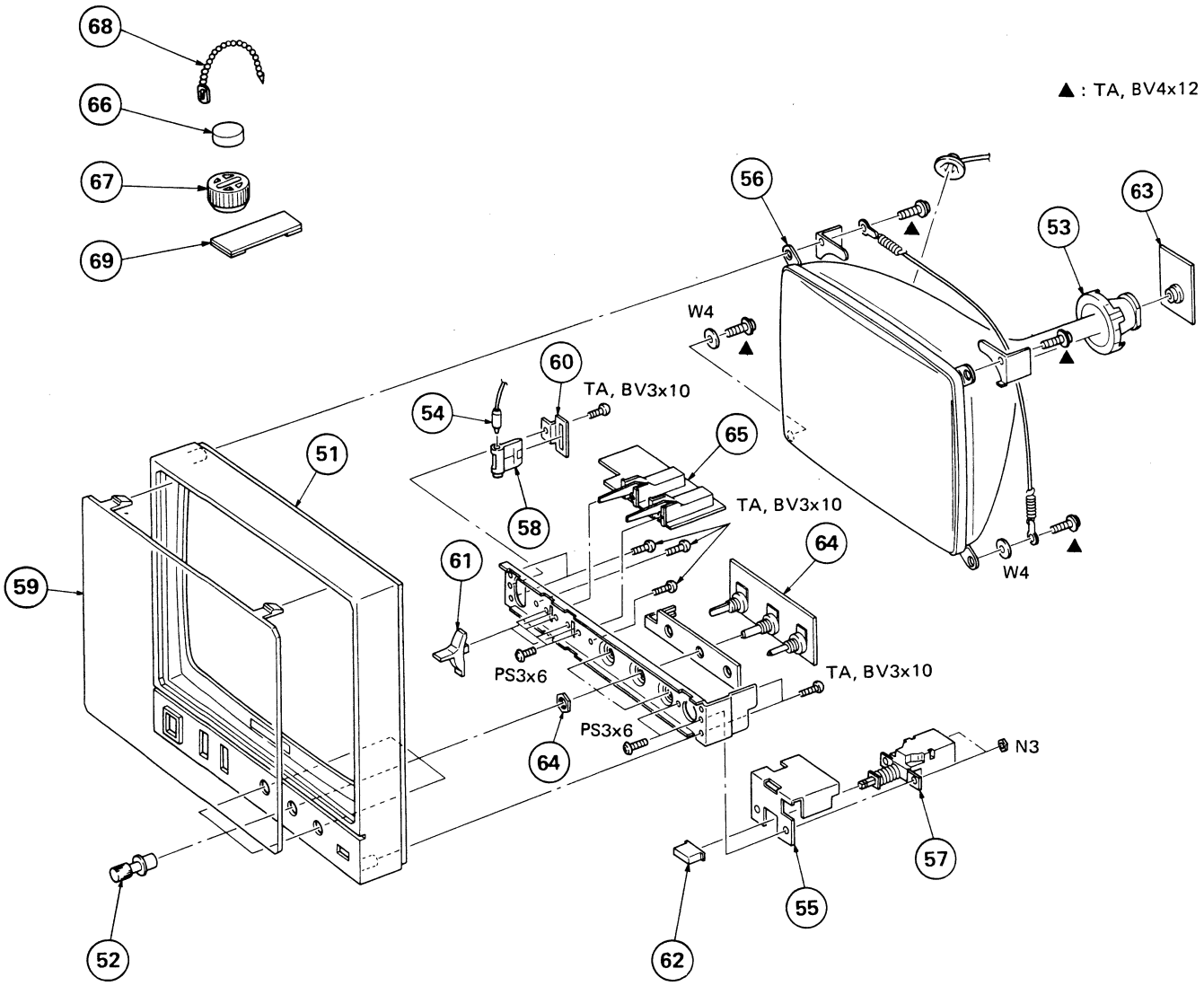
1. CABINET



No.	Part No	Description	Remark
1	♦ :A-1340-485-A	D MOUNTED	
2	X-4861-312-0	FOOT ASSY, MF	
3	⚠ .1-447-427-00	TRANSFORMER, POWER: PT	
4	1-536-392-XX	L-TYPE TERMINAL STRIP	
5	⚠ .3-005-073-00	BUSHING	
6	♦ :4-025-821-00	HOLDER, BUSHING (CE)	
7	♦ :4-027-213-00	PLATE, BOTTOM	
8	4-027-214-00	PANEL, REAR	
9	4-027-217-00	CABINET	
10	♦ :1-608-456-00	J BOARD	

No.	Part No	Description	Remark
11	♦ :4-027-219-00	LABEL, MODEL NUMBER (LARGE)	
12	⚠ .1-534-820-XX	POWER CORD	
13	♦ :3-703-058-00	LABEL, PTB EXEMPTION	
14	1-561-167-00	CONNECTOR	
15	3-703-057-00	LABEL, PTB EXEMPTION	
16	3-703-269-00	LABEL, SEV	
17	3-703-274-00	LABEL, APPROVAL	
18	4-310-379-00	LABEL, NEMKO	
19	4-310-380-00	LABEL, DEMKO	
20	4-310-381-00	LABEL, SEMKO	

2. BEZEL



No.	Part No	Description	Remark
51	X-4027-202-0	BEZEL ASSY	
52	X-4316-209-0	KNOB ASSY, CONTROL	
53 ⚠	1-451-216-21	DEFLECTION YOKE	
54	1-519-108-XX	NEON LAMP ASSY	
55 ♦	4-027-218-00	BARRIER	
56 ⚠	1-546-046-00	CATHODE-RAY TUBE (B/W)	
57 ⚠	1-553-330-00	SWITCH, PUSH (POWER)	
58 ♦	4-027-202-00	HOLDER, LAMP	
59	4-027-212-00	FILTER	
60 ♦	4-308-211-00	HOLDER, NEON LAMP	

No.	Part No	Description	Remark
61	4-335-954-02	KNOB (2P), LEVER SWITCH	
62	4-335-962-00	PUSH BUTTON	
63 ♦	1-608-454-00	C BPARD	
64 ♦	1-608-455-00	H BOARD	
65 ♦	1-608-457-00	Z BOARD	
66	1-452-032-00	MAGNET, DISK; 10MM ϕ	
67	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
68	4-308-870-00	CLIP, LEAD WIRE	
69	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

C D

6. ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

When indicating parts by reference number, please include the board name.

Ref.No	Part No	Description				Remark
♦	1-608-454-00	C BOARD				
		*******				
	1-526-521-XX	SOCKET, ELECTRONIC TUBE				
		CAPACITOR				
C431	1-108-393-00	MYLAR	0.22MF	10%	100V	
C432	1-108-389-00	MYLAR	0.1MF	10%	100V	
C433	1-129-714-00	FILM	0.01MF	10%	630V	
C434	1-129-714-00	FILM	0.01MF	10%	630V	
C435	1-108-377-00	MYLAR	0.01MF	10%	100V	
		RESISTOR				
R431	1-202-621-00	COMPOSITION	100K	5%	1/2W	
R432	1-202-569-00	COMPOSITION	680	5%	1/2W	
R433	1-202-589-00	COMPOSITION	4.7K	5%	1/2W	
R434	1-202-613-00	COMPOSITION	47K	5%	1/2W	
R435	1-202-613-00	COMPOSITION	47K	5%	1/2W	
R436 ⚠	1-202-309-35	COMPOSITION	2.2	10%	1/4W	
		SPARK GAP				
SG431	1-519-063-XX	DISCHARGING GAP				
SG432	1-519-063-XX	DISCHARGING GAP				
SG433	1-519-063-XX	DISCHARGING GAP				
**********						
♦	A-1340-485-A	D BOARD, COMPLETE				
		**********				
		CAPACITOR				
C301	1-123-356-00	ELECT	10MF	20%	16V	
C303	1-123-356-00	ELECT	10MF	20%	16V	
C304	1-123-321-00	ELECT	220MF	20%	16V	
C306	1-123-321-00	ELECT	220MF	20%	16V	
C307	1-123-328-00	ELECT	4.7MF	20%	25V	
C308	1-123-333-00	ELECT	100MF	20%	16V	
C309	1-123-356-00	ELECT	10MF	20%	16V	
C310	1-123-333-00	ELECT	100MF	20%	16V	
C311	1-102-836-00	CERAMIC	470PF	10%	50V	
C401	1-102-108-00	CERAMIC	150PF	10%	50V	
C402	1-123-333-00	ELECT	100MF	20%	16V	
C403	1-123-384-00	ELECT	10MF	20%	100V	
C404	1-123-384-00	ELECT	10MF	20%	100V	
C405	1-102-111-00	CERAMIC	270PF	10%	50V	
C500	1-108-227-00	MYLAR	0.001MF	10%	50V	
C501	1-108-244-00	MYLAR	0.033MF	10%	50V	
C502	1-123-380-00	ELECT	1MF	20%	50V	
C503	1-123-332-00	ELECT	47MF	20%	16V	
C504	1-108-837-00	MYLAR	0.01MF	10%	50V	
C505	1-123-380-00	ELECT	1MF	20%	50V	
C506	1-102-836-00	CERAMIC	470PF	10%	50V	
C507	1-108-837-00	MYLAR	0.01MF	10%	50V	
C508	1-108-837-00	MYLAR	0.01MF	10%	50V	
C509	1-108-383-00	MYLAR	0.033MF	10%	100V	
C510	1-123-382-00	ELECT	3.3MF	20%	50V	
C511	1-108-849-00	MYLAR	0.1MF	10%	50V	
C512	1-108-837-00	MYLAR	0.01MF	10%	50V	
C513	1-108-849-00	MYLAR	0.1MF	10%	50V	
C514	1-123-333-00	ELECT	100MF	20%	16V	
C515	1-123-356-00	ELECT	10MF	20%	16V	
C516	1-108-242-00	MYLAR	0.022MF	10%	50V	
C517	1-108-837-00	MYLAR	0.01MF	10%	50V	
C518	1-101-810-00	CERAMIC	100PF	5%	500V	
C519	1-123-379-00	ELECT	0.47MF	20%	50V	
C520	1-108-227-00	MYLAR	0.001MF	10%	50V	
C551	1-108-837-00	MYLAR	0.01MF	10%	50V	
C552	1-108-837-00	MYLAR	0.01MF	10%	50V	
C553	1-123-380-00	ELECT	1MF	20%	50V	
C555	1-123-323-00	ELECT	470MF	20%	16V	
C556	1-131-498-51	TANTALUM	1MF	20%	25V	
C557	1-123-332-00	ELECT	47MF	20%	16V	
C558	1-123-332-00	ELECT	47MF	20%	16V	
C559	1-131-371-00	TANTALUM	10MF	20%	16V	
C561	1-131-371-00	TANTALUM	10MF	20%	16V	
C562	1-108-845-00	MYLAR	0.047MF	10%	50V	
C563	1-123-332-00	ELECT	47MF	20%	16V	
C564	1-123-326-00	ELECT	3300MF	20%	16V	
C565	1-123-325-00	ELECT	10MF	20%	16V	
C566	1-108-849-00	MYLAR	0.1MF	10%	50V	
C600	1-117-131-11	PAPER	0.047MF	20%	250V	
C601	1-101-006-00	CERAMIC	0.047MF		50V	
C602	1-101-006-00	CERAMIC	0.047MF		50V	
C603	1-101-006-00	CERAMIC	0.047MF		50V	
C604	1-101-006-00	CERAMIC	0.047MF		50V	
C605	1-123-385-00	ELECT	22MF	20%	100V	
C606	1-123-738-00	ELECT	4700MF	20%	35V	
C608	1-123-385-00	ELECT	22MF	20%	100V	
C610	1-123-356-00	ELECT	10MF	20%	16V	
C611	1-123-325-00	ELECT	2200MF	20%	16V	
C612	1-161-737-00	CERAMIC	0.001MF	20%	400V	
C613	1-161-737-00	CERAMIC	0.001MF	20%	400V	
C614	1-161-737-00	CERAMIC	0.01MF	20%	400V	
C615	1-161-737-00	CERAMIC	0.01MF	20%	400V	
C801	1-123-333-00	ELECT	100MF	20%	16V	
C803 ⚠	1-130-951-00	FILM	0.012MF	3%	400V	
C804 ⚠	1-130-953-00	FILM	0.0068MF	3%	400V	
C805 ⚠	1-129-712-00	FILM	0.0068MF	10%	630V	
C806 ⚠	1-130-951-00	FILM	0.012MF	3%	400V	
C807	1-123-324-00	ELECT	1000MF	20%	16V	
C808	1-123-989-00	ELECT	470MF	20%	25V	
C809	1-129-710-00	FILM	0.0047MF	10%	630V	
C811	1-123-908-00	ELECT	4.7MF	20%	25V	
C901	1-129-702-00	FILM	0.001MF	10%	630V	
		DIODE				
D301	=>8-719-911-19	DIODE 1SS119				
D401	8-719-815-85	DIODE 1S1585				
D402 ⚠	8-719-900-63	DIODE V06C				
D403 ⚠	8-719-300-74	DIODE RH1				
D501	=>8-719-911-19	DIODE 1SS119				

D

Ref.No	Part No	Description	Remark
D502	=>8-719-911-19	DIODE 1SS119	
D503	=>8-719-101-86	DIODE RD13E-L2	
D551 ⚠	.8-719-815-55	DIODE 1S1555	
D601 ⚠	.8-719-911-54	DIODE U05E	
D602 ⚠	.8-719-911-54	DIODE U05E	
D603 ⚠	.8-719-911-54	DIODE U05E	
D604 ⚠	.8-719-911-54	DIODE U05E	
D605 ⚠	.8-719-815-55	DIODE 1S1555	
D606 ⚠	.8-719-815-55	DIODE 1S1555	
D607 ⚠	.8-719-101-59	DIODE RD5.6E-L3	
D801	=>8-719-911-55	DIODE U05G	
D802 ⚠	.8-719-300-76	DIODE RH1	
D803 ⚠	.8-719-300-00	DIODE GU3SY	
D806	8-719-911-55	DIODE U05G	
		FUSE	
F601 ⚠	.1-532-078-00	FUSE, TIME-LAG: 250V 1A	
♦	:1-533-087-00	HOLDER, FUSE (F601)	
F602 ⚠	.1-532-286-00	FUSE, TIME-LAG: 250V 2.5A	
♦	:1-533-087-00	HOLDER, FUSE (F602)	
		IC	
IC551 ⚠	.8-759-110-31	IC UPC1031H2	
		COIL	
L401 ⚠	1-407-705-00	MICRO INDUCTOR 100UH	
L601	1-441-855-00	TRANSFORMER, HEATER INSULATION:	LFT
L801 ⚠	1-459-427-00	COIL, HORIZONTAL LINEARITY,HLC	
L802 ⚠	1-459-330-12	RES, VAR (HWC)	
		TRANSISTOR	
Q301	=>8-729-606-32	TRANSISTOR 2SC2603	
Q302	=>8-729-201-52	TRANSISTOR 2SA1015	
Q303	=>8-729-606-32	TRANSISTOR 2SC2603	
Q304	=>8-729-606-32	TRANSISTOR 2SC2603	
Q305	=>8-729-606-32	TRANSISTOR 2SC2603	
Q306	=>8-729-606-32	TRANSISTOR 2SC2603	
Q307	=>8-729-606-32	TRANSISTOR 2SC2603	
Q401 ⚠	.8-765-012-20	TRANSISTOR 2SC1811	
Q501	=>8-729-201-52	TRANSISTOR 2SA1015	
Q502	=>8-729-606-32	TRANSISTOR 2SC2603	
Q503	=>8-729-201-52	TRANSISTOR 2SA1015	
Q504 ⚠	.8-719-000-24	THYRISTOR CR02AM-4	
Q505	=>8-729-201-52	TRANSISTOR 2SA1015	
Q506	=>8-729-201-52	TRANSISTOR 2SA1015	
Q507 ⚠	.8-729-378-43	TRANSISTOR 2SD789	
Q601 ⚠	.8-729-382-63	TRANSISTOR 2SC1826	
Q602 ⚠	.8-729-194-56	TRANSISTOR 2SC945	
Q603	=>8-729-606-32	TRANSISTOR 2SC2603	
Q604 ⚠	.8-729-203-02	TRANSISTOR 2SK30A	
Q801 ⚠	.1-806-308-00	TRANSISTOR 2SC681A	

Ref.No	Part No	Description				Remark
		RESISTOR				
R301	1-246-489-00	CARBON	4.7K	5%	1/4W	
R302	1-246-523-00	CARBON	120K	5%	1/4W	
R303	1-246-473-00	CARBON	1K	5%	1/4W	
R304	1-246-504-00	CARBON	20K	5%	1/4W	
R305 ⚠	.1-246-446-00	CARBON	75	5%	1/4W	
R306	1-213-133-00	METAL	150	5%	1W	F
R307	1-246-429-00	CARBON	15	5%	1/4W	
R308	1-246-523-00	CARBON	120K	5%	1/4W	
R309	1-246-489-00	CARBON	4.7K	5%	1/4W	
R310	1-246-521-00	CARBON	100K	5%	1/4W	
R311	1-246-479-00	CARBON	1.8K	5%	1/4W	
R312	1-246-449-00	CARBON	100	5%	1/4W	
R313	1-246-441-00	CARBON	47	5%	1/4W	
R315	1-246-491-00	CARBON	5.6K	5%	1/4W	
R316	1-246-503-00	CARBON	18K	5%	1/4W	
R317	1-246-473-00	CARBON	1K	5%	1/4W	
R318	1-246-489-00	CARBON	4.7K	5%	1/4W	
R319	1-246-449-00	CARBON	100	5%	1/4W	
R320	1-246-449-00	CARBON	100	5%	1/4W	
R321	1-246-475-00	CARBON	1.2K	5%	1/4W	
R322	1-246-455-00	CARBON	180	5%	1/4W	
R323	1-246-489-00	CARBON	4.7K	5%	1/4W	
R324	1-246-497-00	CARBON	10K	5%	1/4W	
R325	1-246-497-00	CARBON	10K	5%	1/4W	
R326	1-246-497-00	CARBON	10K	5%	1/4W	
R327	1-246-481-00	CARBON	2.2K	5%	1/4W	
R328	1-246-509-00	CARBON	33K	5%	1/4W	
R329	1-246-494-00	CARBON	7.5K	5%	1/4W	
R330	1-246-481-00	CARBON	2.2K	5%	1/4W	
R401 ⚠	.1-206-681-00	METAL	5.1K	5%	2W	F
R402	1-246-457-00	CARBON	220	5%	1/4W	
R403	1-246-449-00	CARBON	100	5%	1/4W	
R404	1-246-505-00	CARBON	22K	5%	1/4W	
R405	1-246-469-00	CARBON	680	5%	1/4W	
R406	1-246-473-00	CARBON	1K	5%	1/4W	
R407	1-246-501-00	CARBON	15K	5%	1/4W	
R409	1-246-519-00	CARBON	82K	5%	1/4W	
⊠R500 ⚠	.	CARBON			1/4W	
R501	1-246-477-00	CARBON	1.5K	5%	1/4W	
R502	1-246-449-00	CARBON	100	5%	1/4W	
R503	1-246-513-00	CARBON	47K	5%	1/4W	
R504	1-246-465-00	CARBON	470	5%	1/4W	
R505	1-246-531-00	CARBON	270K	5%	1/4W	
R506	1-246-483-00	CARBON	2.7K	5%	1/4W	
R507	1-246-519-00	CARBON	82K	5%	1/4W	
R508	1-246-470-00	CARBON	750	5%	1/4W	
R509	1-246-499-00	CARBON	12K	5%	1/4W	
R510	1-246-473-00	CARBON	1K	5%	1/4W	
R511	1-246-487-00	CARBON	3.9K	5%	1/4W	
R512	1-246-497-00	CARBON	10K	5%	1/4W	
R513	1-246-463-00	CARBON	390	5%	1/4W	

When indicating parts by reference number, please include the board name.

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No	Description				Remark
R514	1-246-463-00	CARBON	390	5%	1/4W	
R515	1-246-489-00	CARBON	4.7K	5%	1/4W	
R516	1-244-865-00	CARBON	470	5%	1/2W	
R517	1-246-491-00	CARBON	5.6K	5%	1/4W	
R518	1-246-491-00	CARBON	5.6K	5%	1/4W	
R519	1-246-473-00	CARBON	1K	5%	1/4W	
R520	1-246-491-00	CARBON	5.6K	5%	1/4W	
R521	1-246-511-00	CARBON	39K	5%	1/4W	
R522	1-246-435-00	CARBON	27	5%	1/4W	
R523	1-246-425-00	CARBON	10	5%	1/4W	
R524	1-246-473-00	CARBON	1K	5%	1/4W	
R525	1-246-467-00	CARBON	560	5%	1/4W	
R526	1-246-461-00	CARBON	330	5%	1/4W	
R527	1-246-469-00	CARBON	680	5%	1/4W	
R528 ⚠	1-246-441-00	CARBON	47	5%	1/4W	
R529	1-246-449-00	CARBON	100	5%	1/4W	
R530	1-206-680-00	METAL	4.7K	5%	2W	F
R531	1-246-497-00	CARBON	10K	5%	1/4W	
R533 ⚠	1-211-598-00	CARBON	22	5%	1/2W	F
R534	1-246-481-00	CARBON	2.2K	5%	1/4W	
R535	1-246-489-00	CARBON	4.7K	5%	1/4W	
R551	1-246-491-00	CARBON	5.6K	5%	1/4W	
R552	1-246-491-00	CARBON	5.6K	5%	1/4W	
R553	1-246-489-00	CARBON	4.7K	5%	1/4W	
R556	1-246-513-00	CARBON	47K	5%	1/4W	
R557	1-246-513-00	CARBON	47K	5%	1/4W	
R558	1-246-485-00	CARBON	3.3K	5%	1/4W	
R559	1-246-489-00	CARBON	4.7K	5%	1/4W	
R560	1-246-494-00	CARBON	7.5K	5%	1/4W	
R561 ⚠	1-206-439-00	METAL	1	5%	2W	F
R563	1-246-458-00	CARBON	240	5%	1/4W	
R564	1-246-473-00	CARBON	1K	5%	1/4W	
R565	1-246-465-00	CARBON	470	5%	1/4W	
R566 ⚠	1-212-357-61	METAL	0.56	5%	1W	F
R601 ⚠	1-246-521-00	CARBON	100K	5%	1/4W	
R602 ⚠	1-206-477-00	METAL	39	5%	2W	F
R603	1-246-497-00	CARBON	10K	5%	1/4W	
R604	1-246-467-00	CARBON	560	5%	1/4W	
R605	1-246-473-00	CARBON	1K	5%	1/4W	
R606	1-246-497-00	CARBON	10K	5%	1/4W	
R607	1-246-489-00	CARBON	4.7K	5%	1/4W	
■ R608 ⚠		CARBON			1/4W	
R610 ⚠	1-246-461-00	CARBON	330	5%	1/4W	
R801 ⚠	1-212-356-00	METAL	0.47	5%	1W	F
R803	1-244-873-00	CARBON	1K	5%	1/2W	
R804	1-244-873-00	CARBON	1K	5%	1/2W	
R806	1-246-534-00	CARBON	360K	5%	1/4W	
R807	1-246-534-00	CARBON	360K	5%	1/4W	
R901	1-202-565-00	COMPOSITION	470	5%	1/4W	

VARIABLE RESISTOR

RV551	1-226-100-00	RES, ADJ, CARBON 10K
RV552	1-224-965-00	RES, ADJ, CARBON 470
RV601	1-226-819-00	RES, ADJ, CARBON 1K
RV801	1-226-263-00	RES, ADJ, CARBON 2.2M
RV802	1-224-551-00	RES, ADJ, CARBON 220K

Ref.No	Part No	Description				Remark
		TRANSFORMER				
T501	1-405-760-00	COIL, OSC: HOT				
T502	1-437-021-00	TRANSFORMER, HORIZONTAL DRIVE: HDT				
T801 ⚠	1-439-298-00	TRANSFORMER ASSY, FLYBACK: FBT				
		THERMISTOR				
TH501	1-800-202-XX	THERMISTOR S-10K				
		**********				
♦	1-608-455-00	H.BOARD				
		*******				
		VARIABLE RESISTOR				
RV901	1-228-771-00	RES, VAR, CARBON 1K				
RV902	1-228-773-00	RES, VAR, CARBON 100K				
RV903	1-228-772-00	RES, VAR, CARBON 50K				
		**********				
♦	1-608-456-00	J BOARD				
		*******				
		RESISTOR				
R101	1-246-446-00	CARBON	75	5%	1/4W	
R102	1-246-446-00	CARBON	75	5%	1/4W	
		SWITCH				
S101	1-516-576-00	SLIDE SWITCH				
S102	1-516-576-00	SLIDE SWITCH				
S103	1-516-576-00	SLIDE SWITCH				
		**********				
♦	1-608-457-00	Z BOARD				
		*******				
		CAPACITOR				
C812	1-123-356-00	ELECT	10MF	20%	16V	
		DIODE				
D804 ⚠	8-719-300-74	DIODE RH1				
		TRANSISTOR				
Q802 ⚠	8-729-137-32	TRANSISTOR 2SC2373				
		RESISTOR				
R802 ⚠	1-206-497-61	METAL	2.7	5%	3W	F
R808	1-246-467-00	CARBON	560	5%	1/4W	
R809	1-246-473-00	CARBON	1K	5%	1/4W	
		SWITCH				
S801	1-552-897-00	SWITCH, LEVER				

When indicating parts by reference number, please include the board name.

- The components identified by ■ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Z

Ref.No	Part No	Description	Remark
S802	1-552-897-00	SWITCH, LEVER	

****

MISCELLANEOUS
****

⚠	1-534-820-XX	POWER CORD	
	1-536-392-XX	L-TYPE TERMINAL STRIP	
	1-561-167-00	CONNECTOR	
	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
L901	⚠ 1-451-216-21	DEFLECTION YOKE H,V	
NL901	⚠ 1-519-108-XX	NEON LAMP ASSY	
S901	⚠ 1-553-330-00	SWITCH, PUSH (POWER)	
T901	⚠ 1-447-427-00	TRANSFORMER, POWER: PT	
V901	⚠ 1-546-046-00	CATHODE-RAY TUBE (B/W)	

****

ACCESSORIES AND PACKING MATERIALS
****

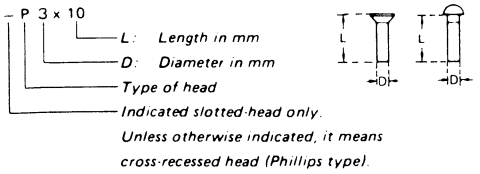
	4-493-695-11	MANUAL, INSTRUCTION
	3-701-629-00	BAG, POLYETHYLENE
	4-027-221-00	CUSHION
	4-027-222-00	INDIVIDUAL CARTON
	4-309-407-00	BAG, POLYETHYLENE

When indicating parts by reference number, please include the board name.

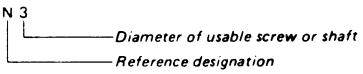
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SP0572

PVM-91CE

SONY®

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AEP Model

Serial No: 25201 and later

SUPPLEMENT-1

File this supplement with the service manual.

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5. EXPLODED VIEWS

NOTE:
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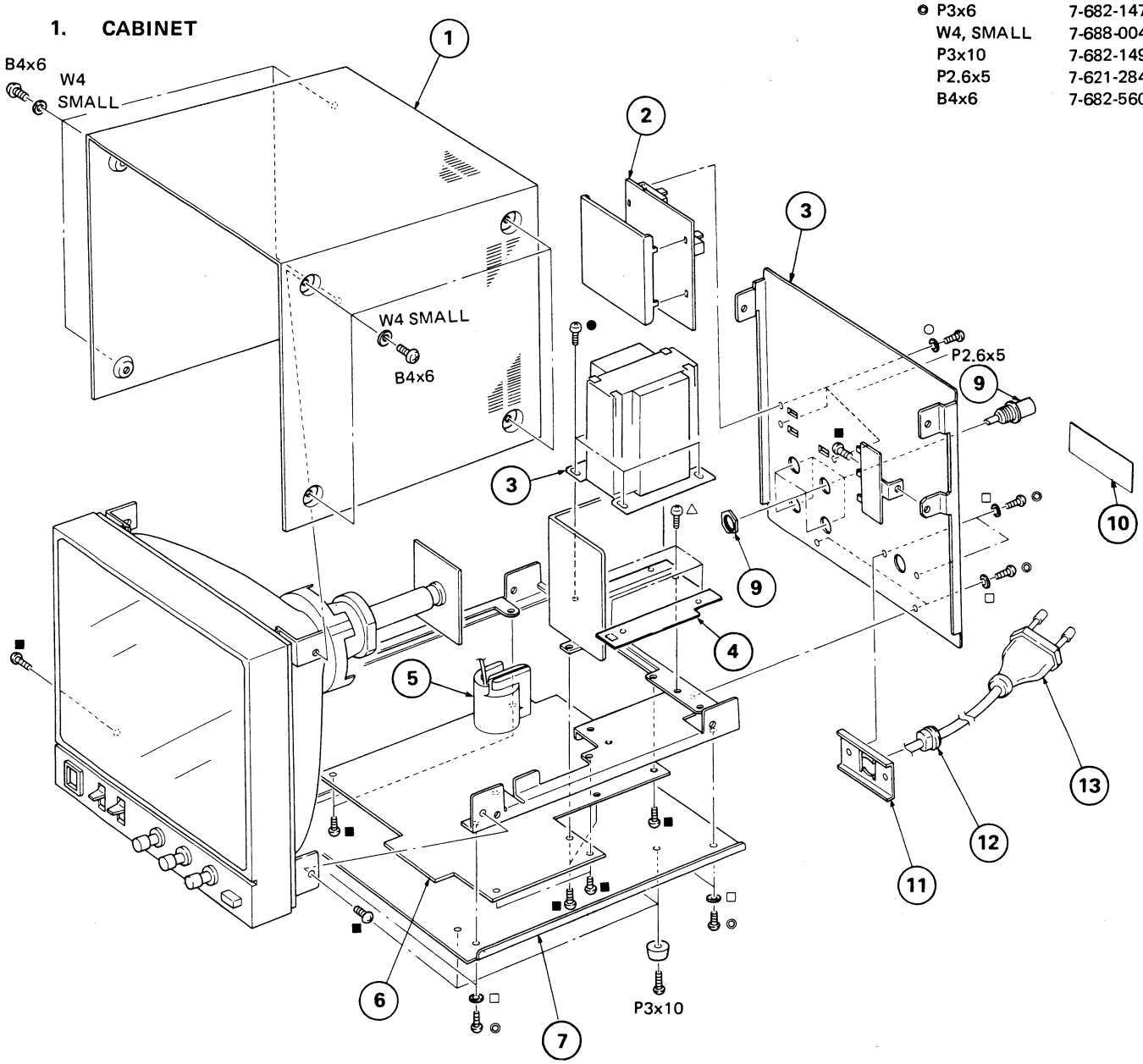
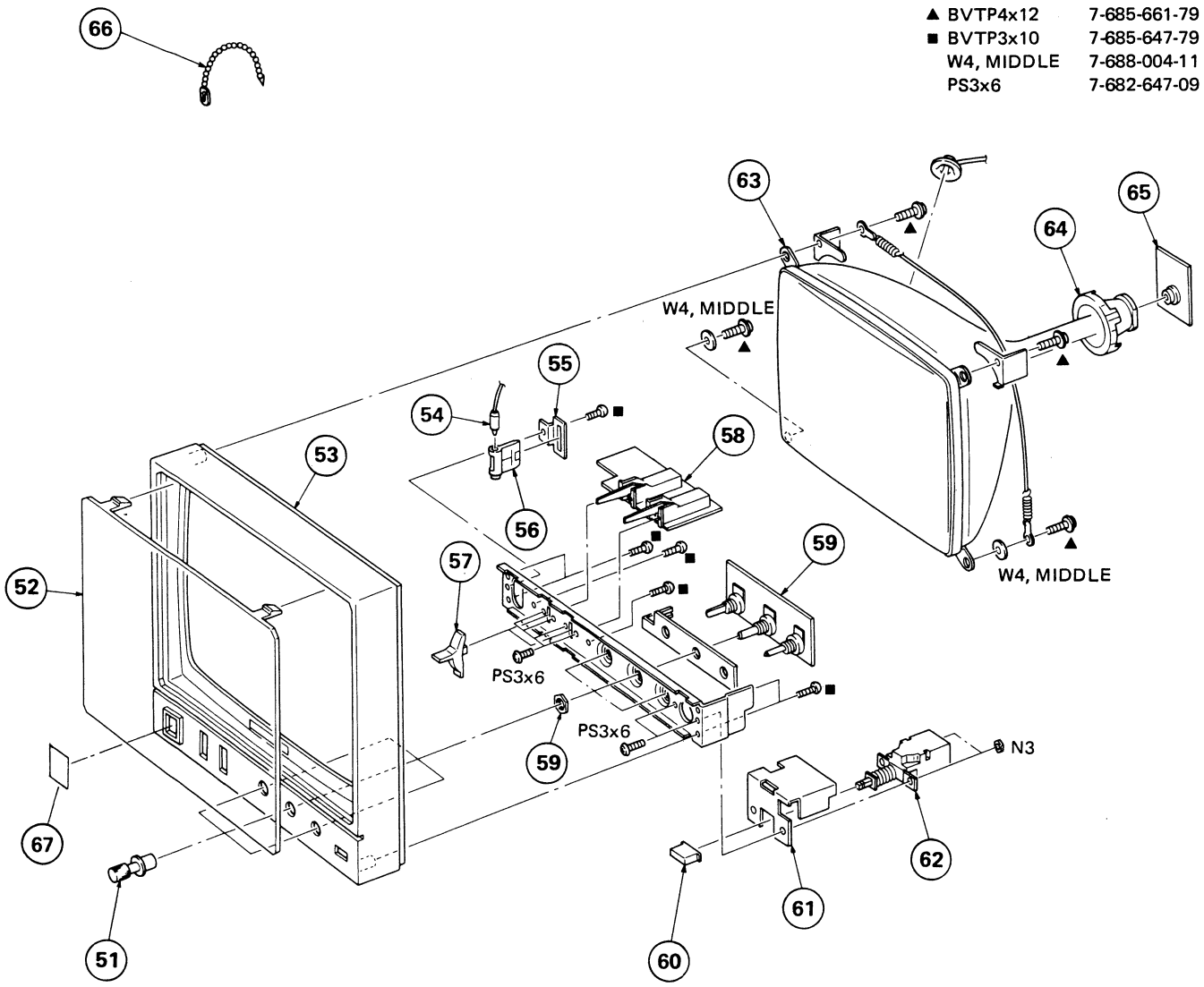
●	BVTP4x10	7-685-660-14
○	W2.6, SMALL	7-688-002-02
△	BVTP4x8	7-685-659-79
■	BVTP3x10	7-685-647-79
□	W3, SMALL	7-688-003-02
◎	P3x6	7-682-147-09
	W4, SMALL	7-688-004-02
	P3x10	7-682-149-01
	P2.6x5	7-621-284-10
	B4x6	7-682-560-09

1. CABINET



No.	Part No.	Description	Remark
1	4-027-217-00	CABINET	
2	*1-608-456-11	J BOARD	
3	⚠ 1-449-357-11	TRANSFORMER, POWER	
4	4-027-226-01	BRACKET, TRANSFORMER	
5	1-439-298-00	TRANSFORMER ASSY, FLYBACK	
6	*A-1340-485-A	MOUNTED PCB, D	
7	*4-027-213-00	PLATE, BOTTOM	
8	4-027-214-00	PANEL, REAR	
9	1-561-167-00	CONNECTOR	
10	*4-027-219-00	LABEL, MODEL NUMBER (LARGE)	
11	*4-025-821-00	HOLDER, BUSHING (CE)	
12	⚠ 3-005-073-00	STOPPER, CORD	
13	⚠ 1-534-820-XX	POWER CORD	

2. BEZEL



No.	Part No.	Description	Remark
51	X-4316-209-0	KNOB ASSY, CONTROL	
52	4-027-212-00	FILTER	
53	X-4027-202-1	BEZEL ASSY	
54	⚠ 1-519-108-XX	NEON LAMP ASSY	
55	*4-308-211-00	HOLDER, NEON LAMP	
56	*4-027-202-00	HOLDER, LAMP	
57	4-335-954-02	KNOB (2P), LEVER SWITCH	
58	*1-608-457-11	Z BOARD	
59	*1-608-455-11	H BOARD	
60	4-335-962-00	PUSH BUTTON	
61	*4-027-218-00	BARRIER	
62	⚠ 1-553-330-21	SWITCH, PUSH (POWER)	
63	⚠ 1-546-048-11	CATHODE-RAY TUBE (B/W) E2733B4	
64	⚠ 1-451-216-21	DEFLECTION YOKE	
65	*1-608-454-11	C BOARD	
66	4-308-870-00	CLIP, LEAD WIRE	
67	4-340-203-00	PLATE, NUMBER	

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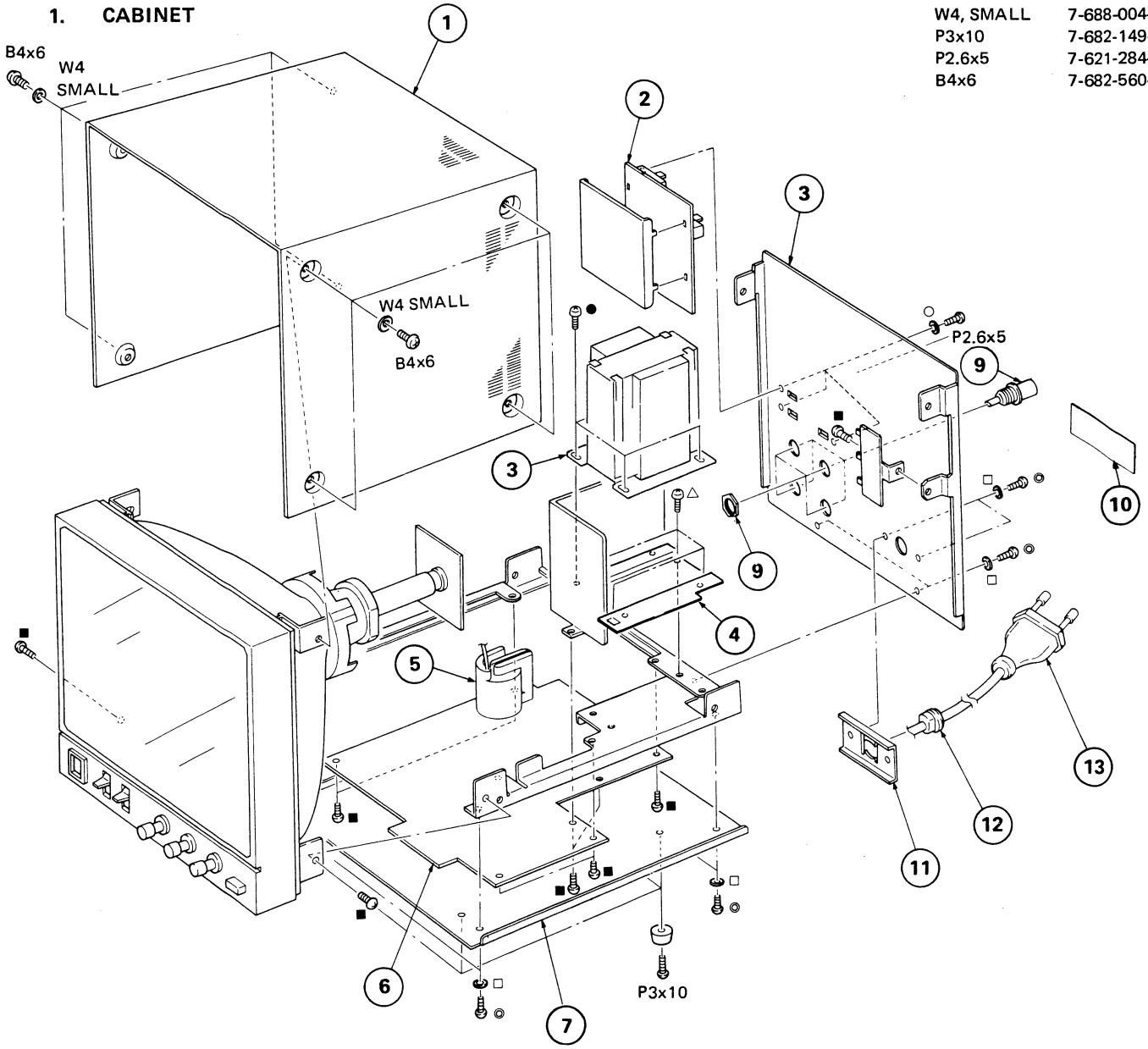

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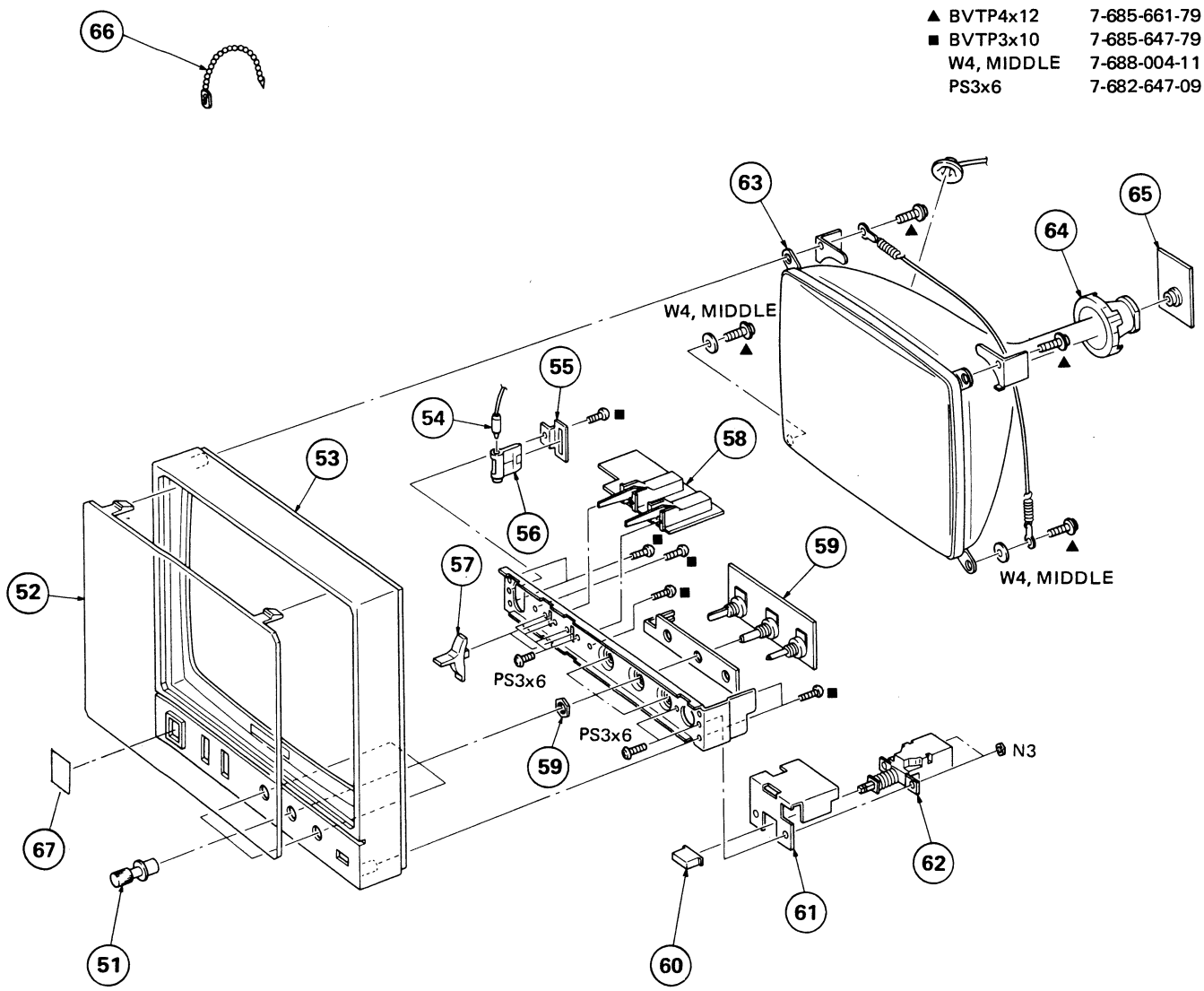

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